Cover Caption

Center: Hanger 981, Boca Chica Key West, where five aircraft (in order, ER-2, Proteus, WB-57, Twin Otter, Citation) plus NRL P3 and 200+ investigators teamed to execute the CRYSTAL-FACE mission in July 2002. Upper right: July 11 storm viewed from Ochopee (picture courtesy of Ed Zipser, U. Utah). Upper left: Similar convective storm sampled on July 9 (picture courtesy Proteus pilot). Top Center: Dave Starr (right) and J.V. Nystrom (left) at the NASA NPOL radar site at Ochopee in the Florida Everglades directing all six aircraft in a coordinated flight pattern around, within, above, and below a storm and anvil system. Lower: Time/space-dependent vertical profile of reflectivity from GSFC Cloud Radar System, a 95 GHz CloudSat simulator, observed from the NASA ER-2 over about a 100 km flight leg on July 23, 2002. Deep convective clouds to 15 km altitude are seen as well as the associated dense anvil system produced by these clouds. The effects of signal attenuation are seen in the lower portion of the deepest thunderstorm. A brightband (melting layer signature) is seen in the other (left) thunderstorm. Cumulus congestus are seen below the main anvil as well as away from the main storms. The tilt in the upper portion of the storms is due to vertical shear of the winds. Further details of the CRYSTAL-FACE mission are given in the Highlights section of the report.